Electro Optical Components, Inc.
5460 Skylane Boulevard, Santa Rosa, CA 95403
Toll Free: 855-EOC-6300
www.eoc-inc.com | info@eoc-inc.com

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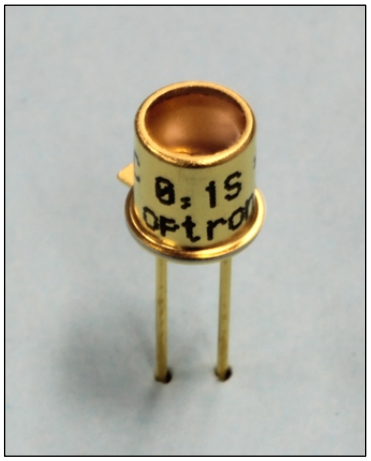
SiC-Photodiode
JEAC 0,1S; JEAC 0,1SS

preliminary data sheet



characteristics :

- low cost SiC-photodiode
- active area: 0,1 mm²
- spectral range: 205 … 355 nm
- high UV-responsivity: 0,18 A/W
- hermetically sealed TO-package
- HT-option for extended operating temperature range 150°C
- RoHS and WEE conform

applications :

- optical measurements in UV-range
- control of sterilization lamps
- flame control

absolute maximum ratings :

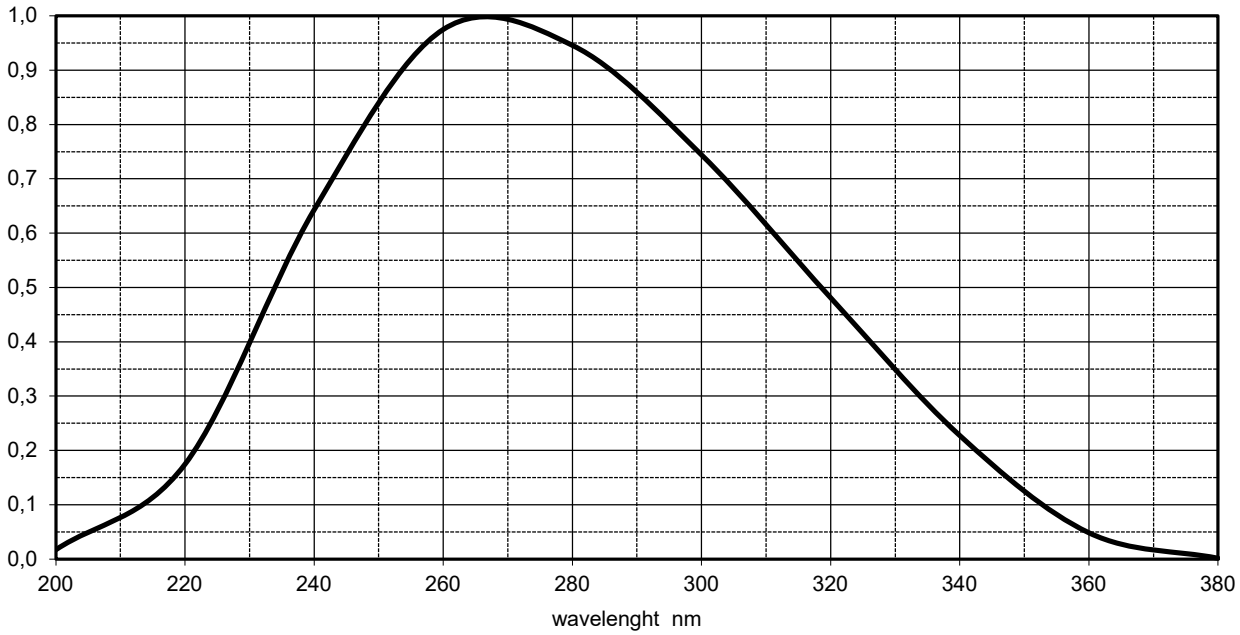
- reverse voltage 20 V
- operating temperature range - 40 °C ... 125 °C
- storage temperature range - 40 °C ... 125 °C
- soldering temperature (3s) 260 °C

technical data :

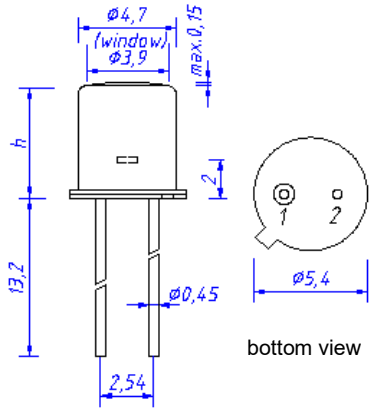
test conditions, as not otherwise specified: T_A = 25 °C , V_R = 0 V

parameter	test condition	JEAC0,1S	JEAC0,1SS	unit
active area		0,365x0,365		mm^2
spectral range λ_{min} λ_{max}	S = 0,1 x S_{max}	 215 355		 nm nm
wavelenght of peak response		265		nm
peak response S_{max}	λ = 265 nm	0,18		A/W
spectral response S_{254nm}	λ = 254 nm	0,16		A/W
dark current I_R	V_R = 1 V	10		fA
junction capacitance C	f = 10 kHz	30		pF
field of view (FOV)		±35	±40	grade
FOV for isolated assembly		±38	±45	grade
weight		0,3	0,3	gram
package drawing		TO18	TO52	

relativ spectral responsivity



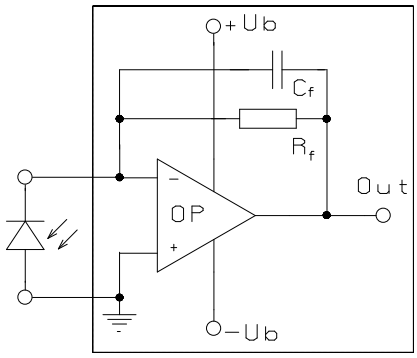
package dimension TO18



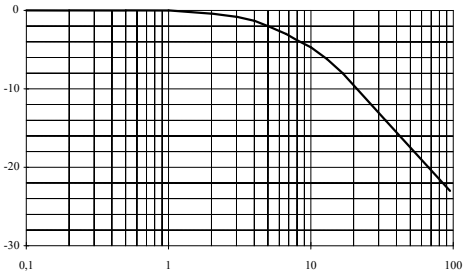
TO18: h = 5,2 mm
TO52: h= 3,7 mm

1 cathode
2 anode+case

application example



Gain in db



f in kHz

The application example shows a typical circuit R_f is responsible fort he gain oft he circuit Cf compensates thereverse junction capacitance of the photodiode and the input capacitance of the OP-amp. The exact value of C_f depends on R_f, used OP-amp and capacitance of the circuit. A typical value is 1pF.
The chart shows dependence of amplitude of the application circuit with OP-amp = AD795, R_f = 10 MΩ and C_f = 1pF